

Historic, archived document

Do not assume content reflects current
scientific knowledge, policies, or practices.

767
3C78
VOL. 6 No. 12

SHD
BAR
MARCH 23, 1956

Entomology Research Branch
RECEIVED

☆ MAR 27 1956 ☆

**FRUIT INSECTS
SECTION**

Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Economic Insect Survey Section
Plant Pest Control Branch
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

BROWN WHEAT MITE increasing in Texas Panhandle. Populations high in Beaver and Texas Counties, Oklahoma. Also occurring in south central Kansas. (p. 243).

SPOTTED ALFALFA APHID light in some areas of California, Kansas, and Nebraska but heavy in several Texas and Oklahoma Counties. Arizona reports varying infestations. Increasing in Washington County, Utah. (p. 245).

VEGETABLE WEEVIL infestation in tobacco plant beds moderate to heavy in several Georgia counties. Severe injury to vegetables in Jones County, Mississippi. (p. 248).

BOLL WEEVIL survival higher than last year in South Carolina. (p. 248).

First established infestation of LESSER GRAIN BORER for Oregon. (p. 250).

CASEMAKING CLOTHES MOTH reported from Idaho for first time. (p. 250).

LIGHT TRAP collections. (p. 251).

Some of the more IMPORTANT INSECTS in 1955 in Missouri. (p. 250).

SUMMARY OF INSECT CONDITIONS - 1955 - Minnesota (p. 252), Massachusetts (p. 257).

First Reported Records of Season (by areas)

ARMYWORM moth taken at Manhattan, Kansas, March 12, and BLACK CUTWORM moth, March 4. CLOVER MITE eggs hatching on apple in Albemarle County, Virginia. IMPORTED CABBAGEWORM adults out in Wake County, North Carolina, March 5 and 14.

WEATHER BUREAU'S 30-DAY OUTLOOK

Mid-March to Mid-April 1956

The Weather Bureau's 30-day outlook for mid-March to mid-April calls for temperatures to average below seasonal normals west of the Continental Divide. In the eastern half of the country temperatures are expected to average above normal except near normal in the North Atlantic States. Precipitation is expected to exceed normal in the lower Mississippi and Ohio Valleys and also in the Central Plateau Region. Subnormal amounts are predicted for the upper Mississippi Valley, Pacific Northwest, and Southern Plains. Elsewhere near normal precipitation is indicated.

This report released by the Weather Bureau on March 16, 1956.

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price: \$4.80 a year, \$2.40 for six months.

WEATHER FOR THE WEEK ENDING MARCH 19, 1956

High pressure prevailed over most of the Nation and the week's weather was uneventful until March 16 when a low pressure area moved northward from the southeast sector of the country and caused the most severe wind and snowstorm of the season for the Northeast. A second low cell developed in Wisconsin on March 17 and as it moved southeastward to the Atlantic Coast and then northeastward resulted in snow conditions unsurpassed in several years for areas from New Jersey through New England. Falls up to 4 to 19 inches were reported from Ohio eastward and from Virginia northward. Winds of 60 to 70 m. p. h., battered the Atlantic seaboard, grounding 5 ships and bringing death from exposure to 3 seamen. Electrical storms accompanied the disturbances in portions of Pennsylvania, New York, and Connecticut. Sleet, dry snow, and blizzard conditions hampered traffic, slowed road clearing, but caused many accidents. Deaths are preliminarily estimated at 95 for 11 states and property damage is not yet totalled. A record snow depth of 21 inches for March was established at Bradley Field near Hartford, Connecticut. Also the total record snowfall for March of 21 1/2 inches is exceeded by 27 1/2 inches so far this month. When all reports are in, other records are expected to be broken. The increased snow depths so late in the season also pose serious flood possibilities in certain areas. Precipitation totals were again mostly moderate to heavy in the eastern third of the country except for Maine and the Southeast, while no rain of significance was recorded in California, from western Nevada through western Texas, and in central portions of Washington and Oregon. In many states south of the Ohio Valley small
(Continued on page 250)

CEREAL AND FORAGE INSECTS

BROWN WHEAT MITE (Petrobia latens) - TEXAS - February snows decreased populations considerably in panhandle area but are now rapidly increasing. Highest populations in northern part of High Plains. (Daniels). Medium to heavy, widespread populations on wheat in Foard County. (Burkett). OKLAHOMA - Populations quite high, averaged 140 per linear foot, in a number of fields in Beaver and Texas Counties, Mar. 6. Red winter eggs abundant in many fields with a few diapause eggs appearing. Populations especially high in continuous fields and in fields where crop failed in spring of 1955. A few heavily infested fields in an area along Cimmaron River south of Perkins. (Henderson). KANSAS - Infestations in nearly all barley and wheat fields checked in Cowley, Sumner, Sedgwick, and Harvey Counties. Heavy feeding evident in some barley in Cowley County. (Matthew).

GREENBUG (Toxoptera graminum) - TEXAS - Of 17 counties surveyed in panhandle, infestations found on wheat in Potter, Randall, Deaf Smith, Castro, Parmer, Swisher, Briscoe, Floyd, Hale and Crosby Counties. Highest populations in Castro, Floyd and Hale Counties with up to 125 aphids per linear foot of row in Castro. Most other counties had 1-20 per linear foot of row in wheat. (Daniels). Medium to heavy damage to oats in spots over widespread area in Raines and Rockwall Counties. A few spots killed in some fields. (Hawkins). KANSAS - No infestations found in wheat fields checked in Woodson, Wilson, Montgomery, Elk, Cowley, Sumner, Sedgwick and Harvey Counties. (Matthew). FLORIDA - In complex with Sipha flava building up on pangola grass at Belle Glade, Palm Beach County. (Genung). OKLAHOMA - Slight infestation in scattered fields in Craig and Ottawa Counties. One wheat field in Wagoner County average 31 aphids per linear foot of row. (Coppock). Causing damage in some wheat fields in Okfuskee and Okmulgee Counties. (Stiles).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Light populations in scattered fields of small grains in Craig, Ottawa and Adair Counties. (Coppock).

APHIDS - ARIZONA - Light populations causing light damage on 100 acres barley at Eloy, Pinal County Mar. 10. (Ariz. Coop. Rept.).

AN ARMYWORM (Leucania latiuscula) - FLORIDA - Causing extensive damage to young sugarcane in Palm Beach County. (Questel).

FLEA BEETLES - TEXAS - Heavy, widespread infestations in grain sorghum, corn and broomcorn in San Patricio County. (Pawlik).

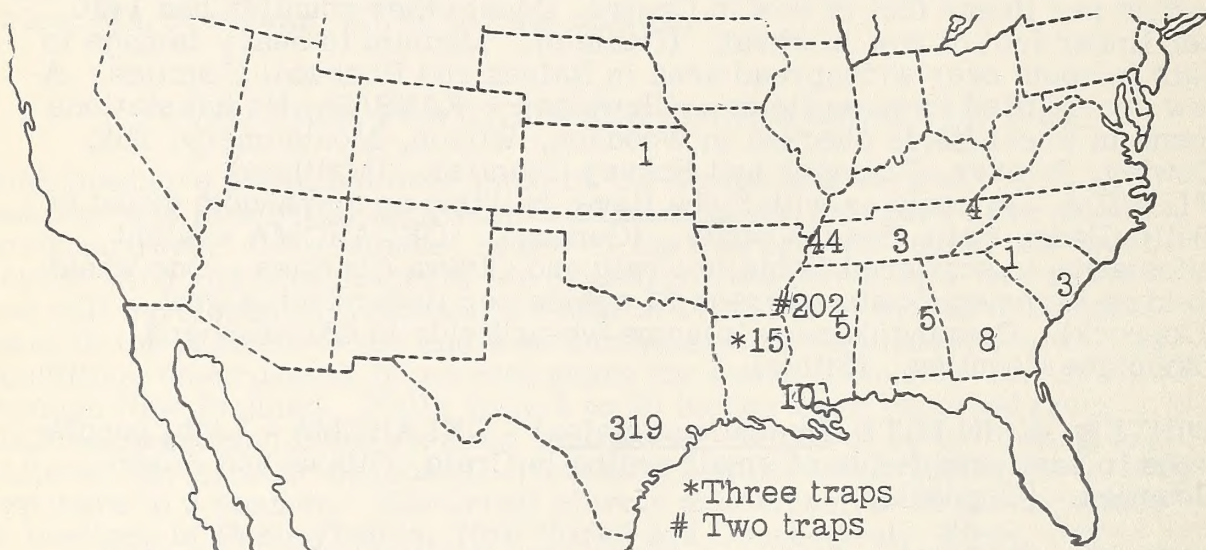
ARMY CUTWORM (Chorizagrotis auxiliaris) - TEXAS - Small numbers generally on wheat in panhandle. (Daniels). OKLAHOMA - Infestations averaged four per square yard in wheat in eastern Kiowa County and nine in western area. (Hudson). KANSAS - Average of six larvae per square yard in wheat, barley and alfalfa in Cowley, Sumner, Sedgwick

and Harvey Counties. Infestations also reported from Barber County and south central area. In general, little damage to barley or wheat. (Matthew). Little evidence of feeding in southwest area where counts in field margins range from 2-5 per square foot. (Frazier). NEBRASKA - Infestation from 1-3 per square foot in alfalfa in Custer County. Reported in alfalfa in Furnas County. (Andersen).

CUTWORMS - TEXAS - Medium widespread infestations of Peridroma margaritosa and Agrotis ypsilon attacking vetch and other crops in Brazos County. (Randolph). KANSAS - Two moths of A. ypsilon taken in light trap at Manhattan, Riley County, Mar. 4. First record of season. (Matthew).

A BILLBUG (Calendra callosa) - GEORGIA - Heavily infesting one acre of sweet corn in seedling stage in Lowndes County. (Blickenstaff).

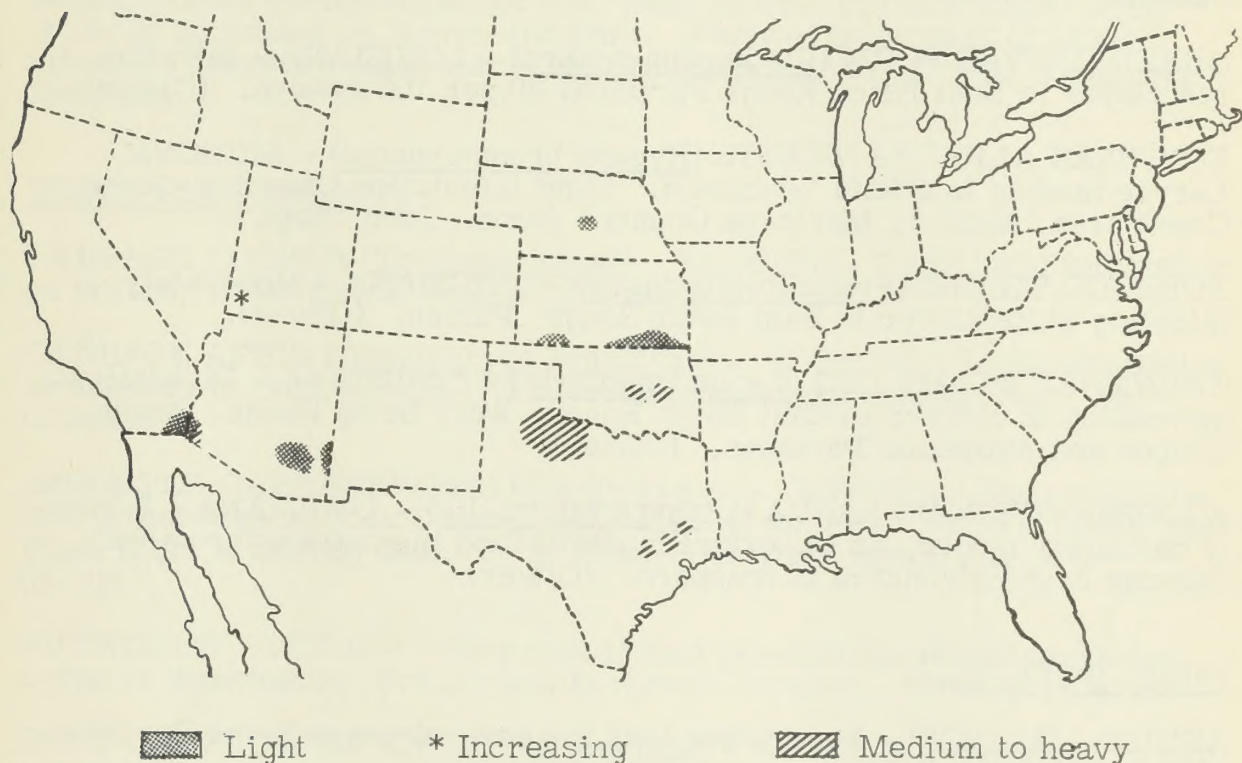
ARMYWORM (Pseudaletia unipuncta) - KANSAS - First appearance of moth in Manhattan, Riley County, Mar. 12. (Loulouides).



Figures = Number of moths trapped

SWEETCLOVER APHID (Myzocallidium riehmii) - MINNESOTA - An aphid determined to be this species by A. A. Granovsky in 1955 was found for the first time in Minnesota in 1954. This species was taken from sweetclover by B. A. Haws at Crookston (Polk County) in 1954 and at Crookston, East Grand Forks and Fertile (all in Polk County) in 1955. (Aamodt). According to ARS records, this aphid has been determined from Washington, Oregon, Utah, Colorado, New Mexico, Nebraska, Kansas, Arkansas, Tennessee, Pennsylvania and Maryland.

SPOTTED ALFALFA APHID - CALIFORNIA - Light damage to alfalfa in Imperial County. (Cal. Coop. Rept.). UTAH - Noticeable increase during past three weeks in Washington County. (Davis, Knowlton). ARIZONA - Of 50 alfalfa fields checked in Yuma area March 9, four had light infestations and two had moderate infestations. On Yuma mesa, 13 out of 25 fields checked had heavy populations. In Chandler-Queen Creek area of Maricopa County, scarce March 7. Light populations in Greenlee and Pinal Counties. (Ariz. Coop. Rept.). TEXAS - Heavy populations on alfalfa in Brazos County. (Randolph). Heavy widespread infestations in Houston County. (Nix). Medium to heavy, widespread populations on



alfalfa in Throckmorton, Haskell, Foard, Kent, Motley, Hall, Wilbarger, Hardeman, Baylor, Knox, Cottle, Burleson and Grimes Counties. (Fuller, Davis). OKLAHOMA - Causing severe damage in Canadian River bottom alfalfa east of Oklahoma City. (Bower). Heavy to severe damage to some alfalfa fields in Wagoner County. (Coppock). Infestations ranged from 2-3 per plant to about 5000 per square foot in McIntosh and Okfuskee Counties. Fields in Oklahoma County infested. (Stiles). KANSAS - Light infestations in alfalfa fields of Wilson, Montgomery, Elk, Cowley, Sumner and southern Sedgwick Counties, southern tier of southeast and south central counties. None north of Wichita and nowhere a problem. (Matthew). Light in Meade and Clark Counties. (Frazier). NEBRASKA - Populations low in Sherman County. (Andersen).

PEA APHID (Macrosiphum pisi) - ARIZONA - Building up in several areas on alfalfa in Maricopa County. (Ariz. Coop. Rept.). TEXAS - Light local populations on winter peas in Hunt County. (Hawkins). KANSAS - Non-economic numbers of nymphs in alfalfa in Wilson and Montgomery Counties. (Matthew). LOUISIANA - Continues to infest forage crops in St. Landry, Avoyelles, Pointe Coupee, West Baton Rouge and East Baton Rouge Parishes. (Oliver). VIRGINIA - Light populations in alfalfa in nearly all parts of State. (Morris).

LEAFHOPPERS (Empoasca sp.) - LOUISIANA - Infesting sweetclover in East Baton Rouge and West Baton Rouge Parishes at 10-18 per 100 sweeps. (Oliver).

GREEN CLOVERWORM (Plathypena scabra) - LOUISIANA - Infesting red clover in East Baton Rouge Parish at 30 per 100 sweeps. (Oliver).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - ARIZONA - Larvae feeding in alfalfa terminals. Light infestation Chandler-Queen Creek area, Mar. 7, Maricopa County. (Ariz. Coop. Rept.).

TOBACCO THRIPS (Frankliniella fusca) - LOUISIANA - Moderately infesting white clover in East Baton Rouge Parish. (Oliver).

TARNISHED PLANT BUG (Lygus lineolaris) - LOUISIANA - Populations increasing in clovers in East Baton Rouge, West Baton Rouge, Pointe Coupee and Avoyelles Parishes. (Oliver).

A LEPIDOPTEROUS LARVA (Cisseps fulvicollis) - LOUISIANA - Severely damaging sedges, an important muskrat food in southwestern area. Damage causing concern to trappers. (Oliver).

FRUIT INSECTS

APHIDS - ILLINOIS - Eggs fewer than for several years in the Carbon-dale area. (Chandler).

PEACH TWIG BORERS - UTAH - Injuring opening buds of peach trees in Washington County. (Davis).

CLOVER MITE (Bryobia praetiosa) - VIRGINIA - Eggs heavy and hatching under bark of apple trees in Albemarle County. (Bobb, Cagle).

GREEN PEACH APHID (Myzus persicae) - VIRGINIA - Infestations medium in apple orchards in central area. (Bobb).

PEAR PSYLLA (Psylla pyricola) - CALIFORNIA - Adults and eggs in pear orchards in Potter Valley, Mendocino County. (Cal. Coop. Rept.).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - GEORGIA - Light infestation throughout State on wild cherry trees. (Johnson).

CITRUS BLACKFLY (Aleurocanthus woglumi) - TEXAS - Three light infestations found at Brownsville during latter part of February. (Citrus Blackfly and Mex. Fruit Fly Cont. Proj., Feb. 16-29).

Citrus Insect Situation, Florida, Second Week of March

PURPLE SCALE, with 94 percent of groves checked infested, increased in activity with trend expected to continue through March. FLORIDA RED SCALE, with 51 percent of groves infested, increased. Further increase expected with peak in about two weeks. CITRUS RED MITE, with 78 percent of groves infested, increased in activity but less than previous weeks. Little change expected next week or so. CITRUS RUST MITE activity increased on leaves and fruit. Forty-nine percent of groves infested. Increase expected on fruit following week. (Pratt, Thompson Johnson).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - Light local infestation on lettuce, Palm Beach County. (Genung).

CABBAGE APHID (Brevicoryne brassicae) - GEORGIA - Light infestation on cabbage in Cook County. Numerous parasitized aphids, Mar. 14. (Johnson).

IMPORTED CABBAGEWORM (Pieris rapae) - GEORGIA - Heavy infestation on cabbage in Cook County, Mar. 14. (Johnson). NORTH CAROLINA First flight of adults, Mar. 5, in Wake County and again Mar. 14. (Scott).

CUTWORMS - TEXAS - Heavy widespread populations attacking garden crops in Washington, Brazos and Burleson Counties. (Weaver, Davis).

BEET LEAFHOPPER (Circulifer tenellus) - ARIZONA - Averaged 11 per 100 cage samples in six study fields of cantaloups at Yuma, Mar. 9. Most associated with sowbane. (Ariz. Coop. Rept.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - In strawberry fields last of February in Orange County. (Cal. Coop. Rept.).

STRAWBERRY APHID (Pentatrichopus fragaefolii) - CALIFORNIA - Building up to damaging numbers in Orange County, last of February. (Cal. Coop. Rept.).

A LEAF ROLLER (Clepsis peritana) - CALIFORNIA - An infestation in early March in a strawberry field in Fresno County. (Cal. Coop. Rept., Mar. 14).

APHIDS - VIRGINIA - Light infestations on overwintering vegetables and strawberries in eastern area. (Brubaker). GEORGIA - Light infestations in tobacco plant beds in Coffee County, Mar. 15. (Torrance).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - MISSISSIPPI - Several fields of turnips and other vegetables severely injured by larvae in Jones County. (Pepper). GEORGIA - Heavy infestation of larvae and adults on turnips in Tattnall County, Mar. 15. (Johnson). Heavy infestation in tobacco beds in Tift County; moderate to heavy infestation in Cook, Berrien and Coffee Counties and moderate infestation in Bacon, Appling, Tattnall, Candler and Emanuel Counties, Mar. 15. (Johnson).

MOLE CRICKETS - GEORGIA - Light infestation in tobacco plant beds in Coffee County and a heavy infestation in Berrien County, Mar. 15. (Johnson).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - GEORGIA - Light to moderate infestation in tobacco beds in Tift, Cook, Berrien, Coffee, Bacon, Appling, Tattnall, Candler and Emanuel Counties, Mar. 15. (Johnson).

COTTON INSECTS

Boll Weevil Survival, South Carolina

In Florence County, 200 square yards of surface woods trash examined from 20 farms, March 2-9, showed live boll weevils ranging from 484 to 16,456 per acre with an average of 4646 per acre. Winter survival in 1955-56 was 40.7 percent, lowest found over a 13-year period; although the average number of weevils per acre in the fall was the highest during the 13-year period. The survival this spring is about 1 1/2 times the average number found over a 19-year period and over twice the number found in spring of 1955. From Feb. 27 to Mar. 7, 300 square yards of trash were examined from 30 farms in Darlington, Sumter, Clarendon, Laurens, Horry and Orangeburg Counties. The average number of weevils was 5001 per acre compared with 8260 in 1955 fall examinations and 749 per acre found in the 1955 spring examinations. Percent survival for all samples was 60.5 compared with 49.9 for the spring of 1954-55. (Walker, Hopkins, Jernigan).

Correction: Boll Weevil Hibernation, Louisiana-CEIR 6(11):225.

Fourth sentence should read "Number of weevils per point(10 samples)..."

CUTWORMS - TEXAS - Infestations of Peridroma margaritosa and Agrotis ypsilon causing considerable damage to cotton in lower Rio Grande Valley. Most damage occurring in weedy fields or fields having cover crops. (Deer).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

A PINE TIP MOTH - TEXAS - Larvae caused serious damage to 25 acres of 2-year-old loblolly pine in Walker County. (Texas For. Pest Comm.).

COTTONY-CUSHION SCALE (Icerya purchasi) - ARIZONA - Has been unusually heavy on pittosporum, citrus and roses at Casa Grande, with a number of pittosporum killed. (Ariz. Coop. Rept.).

EUONYMUS SCALE (Unaspis euonymi) - VIRGINIA - Infestation heavy and killing euonymus plants at Clifton Forge. (Rowell).

FLORIDA WAX SCALE (Ceroplastes floridensis) - NORTH CAROLINA - Local infestation on Ilex vomitoria in Chowan County. About two per inch of twig. (Scott).

A SCALE (Lecanium quercifex) - MISSISSIPPI - Beginning to swell on oak trees in Sunflower and Washington Counties. (Neel).

PUTNAM SCALE (Aspidiotus ancylus) - MARYLAND - Infesting sugar maples at a large nursery in Howard County. (U. Md. Ent. Dept.).

APHIDS - ARIZONA - Abundant on ornamentals in Tucson during past two weeks. (Ariz. Coop. Rept.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NEBRASKA - About 80-90 percent of elm trees of a 15-acre tract heavily infested near Millar in Douglas County. Reported in Platte County for first time. (Walstrom, Andersen)

ORANGE TORTRIX (Argyrotaenia citrana) - OREGON - Caused extensive damage to 20 percent of a planting of 100 ornamental conifers at a Salem nursery. (Bock).

A SCALE (Parlatoria proteus) - FLORIDA - Averaged 100 per leaf of one lot of orchids and 75 per leaf of another at Kendall, Dade County, Mar. 7. (Miles).

BULB MITE (Rhizoglyphus echinopus) - VIRGINIA - Extremely heavy in daffodil bulbs at one location in Lancaster County. (Morris).

Correction: CEIR 6(11):226 - "Estimated losses due to forest insects, south Arkansas, 1955" should be credited to L. O. Warren.

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS - UTAH - Control common in Cache County. (Knowlton).
OKLAHOMA - Counts of Hypoderma lineatum averaged 1.2 per steer in Osage County and 1.1 in Payne County. (Howell).

MOSQUITOES - LOUISIANA - Mosquitoes, primarily Aedes sp. increased considerably in East and West Baton Rouge Parishes. (Oliver).

CATTLE LICE - UTAH - Spraying has increased during recent mild weather. (Knowlton).

BED BUG (Cimex lectularius) - OREGON - Infestation in a dormitory in Salem. (Capizzi).

STORED PRODUCTS INSECTS

LESSER GRAIN BORER(Rhyzopertha dominica) - OREGON - Two infestations at Harrisburg and Amity, Mar. 4 and 11. (Det. M. H. Hatch). First established infestations for State. (Goeden, Capizzi).

STORED GRAIN INSECTS - OKLAHOMA - Of 19 bins of small grains and soybeans checked in Craig and Ottawa Counties, two had infestations of lesser grain borer, two had saw-toothed grain beetle, one each had confused flour beetle and granary weevil. Only wheat and oats were infested. (Coppock).

MISCELLANEOUS INSECTS

CASEMAKING CLOTHES MOTH (Tinea pellionella)-IDAHO-Recent infestations reported from house in Filer. First known record of State. (Manis).

CLOVER MITE (Bryobia praetiosa) - VIRGINIA - Emerging in large numbers in Warwick. (Sedivy).

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - RHODE ISLAND - Swarming frequently and commonly now. First winged forms seen Feb. 9. (Mathewson).

Some of the More Important Insects in 1955 - A Supplement

MISSOURI - Grasshoppers, corn flea beetles, wireworms, corn earworm, European corn borer, cutworms, armyworms, spider mites, house fly and termites. (Thomas).

Weather continued from p.242

streams in the lowlands are flooding and fieldwork is halted due to wet soils. In Florida irrigation continues in the citrus groves and truck gardens where rain is needed as it also is in most States from the Continental Divide to the Mississippi Valley. Weekly temperatures averaged below normal except in the extreme Southwest and Southeast and in north-central Montana where they averaged slightly above normal. Scattered light frosts were reported in most States from Oklahoma southward and eastward but caused little damage. (Summary supplied by U. S. Weather Bureau.)

Reports in this issue are for the week ending March 16, 1956, unless otherwise designated.

LIGHT TRAP COLLECTIONS

	Pseudal. unipunc.	Prod. ornith.	Agrot. ypsilon	Perid. marg.	Feltia subt.	Heliothis zea	Agrotis malefida
TEXAS							
College Station 3/3-15/56	319	58	9	38	28	11	50
KANSAS							
Manhattan 3/4			2				
LOUISIANA							
Baton Rouge 3/10-16	10	2	6	2	16	5	
Tallulah* 3/10-16	15	2	3	4		3	1
MISSISSIPPI							
Oktibbela 3/15-16	8	4	6				
Lauderdale 3/15-16	2		1	1	2		
Washington* 3/9-15	202		12	76		2	
TENNESSEE							
Shelby 3/6-12	44	1		13			
Madison 3/6-12	24	4		8		2	
Lawrence 3/6-12	3						
Maury 3/6-12	8		2	2			
Robertson 3/6-12	1						
Knox 3/6-12			1				
Greene 3/6-12	4	1	2	3			
ALABAMA							
Auburn 3/11-17	5						4
GEORGIA							
Spalding 3/3-9		3			1		
Tift 3/3-9	8		3		4		6
FLORIDA							
Sanford 3/9/56					4		
SOUTH CAROLINA							
Oconee 3/11-17	1	6	1				1
Charleston 3/12-18	3		3	1	12		1

*Three traps at Tallulah, two in Washington County.

SUMMARY OF INSECT CONDITIONS - 1955

MINNESOTA

Reported by J. W. Butcher and Hart Graeber*

General Conditions in 1955

The average temperature during the growing season was higher than normal and total precipitation was below normal. Unusually warm and dry weather prevailed during April and May. This allowed early field work and planting of crops to progress rapidly but the soil was generally too dry for good plant development. Warm, dry weather during June, July, and August provided conditions favorable for rapid plant growth and early maturity of many crops. In some areas, the hot dry weather resulted in reduced crop yields. Warm, dry conditions extending well into October were favorable for the harvesting of late maturing crops and enabled many of the late-season insects to successfully complete feeding and development.

Cereal and Forage Crop Insects

EUROPEAN CORN BORER (Pyrausta nubilalis) winter mortality survey conducted in 28 counties in the two-thirds of State in April, 1955, showed 19 percent borer mortality, compared with 25 percent mortality in the spring of 1954. The average number of borers per 100 plants as determined by 1955 fall survey is the highest since 1949, with the worst infestation in the southwest and south central districts. The possibility of an increased borer population in 1956 is very good if weather conditions are favorable during the egg-laying period. This is true especially in the southwest and south central districts. Weather conditions during the spring of 1955 were ideal for GRASSHOPPER egg hatch. Spring was about three weeks earlier than normal, and the weather was warm and dry. Surveys indicated an early egg hatch especially in sandy areas. Warm dry weather hastened egg hatch and produced an ideal environment for survival and development of nymphs. Nearly all heavy infestations occurred in legumes grown for hay. After cutting the legumes there were movements into other crops. In northwestern area, up to 25 percent of some alfalfa fields had been destroyed by August 5. Adult and egg surveys conducted in the fall of 1955 indicate that if warm dry weather prevails in the spring of 1956, dangerous infestations are likely to occur in much of the State. The predominant species in 1955 were Melanoplus femur-rubrum, M. bivittatus, M. mexicanus, M. packardii, and M. differentialis. A close surveillance of the ARMY WORM (Pseudaletia unipuncta) was maintained in 1955. Following the tremendous outbreak of 1954, a few moths were captured in light traps in the northern part of the State in May,

*This report prepared with cooperation of all Office of State Entomologist, Minnesota Department of Agriculture personnel. Cooperation by personnel of University of Minnesota Department of Entomology and Agricultural Extension; Minnesota Department of Conservation; U. S. D. A. Plant Pest Control and United States Forest Service is gratefully acknowledged.

1955. These moths apparently overwintered in the State. A few small larvae were found in the northern counties in June and several occurrences of a second generation were noted in July. In the east-central and south-central districts, scattered, severe outbreaks occurred during June. These outbreaks were usually confined to low rank reed canary or brome grass meadows with some movement to adjacent small grain and corn fields. Some 1100 acres were sprayed by aircraft for this pest, according to spray operators reports. Parasitism as high as 80 percent of 4th and 5th instar larvae was observed although the average was probably much lower than this. CORN LEAF APHID (Rhopalosiphum maidis) became very abundant on late plantings of barley in northwestern area late in June and early July. Some control used on heaviest infestations in Norman, Clay and Polk Counties. Some fields were destroyed in Roseau County. In many instances syrphid fly larvae reduced heavy populations to non-economic level within 48 hours. As high as 50-80 percent of plants were infested in corn in northwest district. SWEETCLOVER WEEVIL (Sitona cylindricollis) populations were the highest in many years in the northwestern area. Considerable damage occurred in new seedings of sweetclover, and some damage occurred to alfalfa stands adjacent to old sweetclover fields, and up to one per sweep was found in alfalfa in southwest, south central and east central areas.

PLANT BUGS (Lygus sp.) in alfalfa occurred up to five per sweep in south central area; up to one per sweep in southeast and west central; up to 20 per sweep in east central; and up to three per sweep in northwest area. In alsike clover they occurred up to one per sweep in northwest area. ALFALFA PLANT BUG (Adelphocoris lineolatus) in alfalfa occurred up to one per sweep in the southwest; up to four in south central; up to three per sweep in west central and east central; and up to two per sweep in northwest area. It occurred up to one per sweep in alsike clover in northwest area. POTATO LEAFHOPPER (Empoasca fabae) occurred up to one per sweep in alfalfa in southwest and east central areas and up to 30 per sweep in northwest area. PEA APHID (Macrosiphum pisi) occurred in alfalfa up to 200 per sweep in southwest and southeast areas; and up to 1000 per sweep in south central, west central, and northwest areas; and up to six per sweep in central and east central areas. FLEA BEETLES caused light damage to alfalfa in some fields. BLACK BLISTER BEETLE (Epicauta pennsylvanica) was abundant generally on alfalfa. LADY BEETLES in alfalfa averaged up to four per sweep in southeast and east central areas and up to 20 per sweep in south central area. A CLOVER HEAD CATERPILLAR (probably Grapholitha interstinctana) in alsike clover occurred up to one per sweep in northwest area. VARIEGATED CUTWORM (Peridroma margaritosa) caused moderate damage to some alsike clover fields in northwest area.

CUTWORMS were abundant and causing damage in corn in south central and west central districts. SPOTTED CUTWORM (Amathes c-nigrum) was heavy in corn in southeast district. WIREWORMS were spotty, causing severe damage in some corn fields in the southeast district. CORN ROOT WEBWORM (Crambus caliginosellus) destroyed one corn field in the central district in late June. NORTHERN CORN ROOTWORM (Diabrotica longicornis) caused moderate damage in some corn fields in

south central district. STALK BORER (Papaipema nebris) caused moderate to heavy damage to corn, especially on edges of fields in the east central district, and was moderate to heavy in oats in southern half of State. BILLBUGS (Calendra sp.) populations were moderate in some fields in central district. CORN EARWORM (Heliothis zea) infested up to 60 percent of sweetcorn ears in central and south central districts. WHEAT STEM MAGGOT (Meromyza americana) damaged 10-20 percent stems of wheat and rye in northwest district. Light to heavy infestations of ENGLISH GRAIN APHID were reported in small grains from all agricultural districts during June.

Fruit Insects

In southeast and east central: CODLING MOTH (Carpocapsa pomonella) adults emerged June 1-7; damage was severe in neglected orchards. EUROPEAN RED MITE (Metatetranychus ulmi) and TWO-SPOTTED SPIDER MITE (Tetranychus telarius) populations were high and damage generally severe. APPLE MAGGOT (Rhagoletis pomonella) first emergence was July 4; control generally successful. APPLE CURCULIO (Tachypterellus quadrigibbus) and PLUM CURCULIO (Conotrachelus nenuphar) emergence during blossom period (May 7) caused light damage in commercial orchards. RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) caused moderate damage in a few orchards in southeast area. FRUIT TREE LEAF ROLLER (Archips argyrospila) was not a serious problem in 1955 nor was OYSTERSHELL SCALE (Lepidosaphes ulmi) a serious problem in commercial orchards.

Truck Crop Insects

ASPARAGUS BEETLE (Crioceris asparagi) caused moderate damage to commercial plantings in the east central districts. CUTWORMS caused up to three percent damage in cabbage plantings in east central district. CABBAGE MAGGOT (Hylemya brassicae) and IMPORTED CABBAGEWORM (Pieris rapae) populations caused light damage in some commercial plantings. High populations of CABBAGE APHID (Brevicoryne brassicae) and GREEN PEACH APHID (Myzus persicae) stunted cabbage early in July in east central district. CABBAGE LOOPER (Trichoplusi ni) was not as abundant in 1955 as in 1954. High populations of PEA APHID occurred in pea fields in all areas where peas were grown and extensive spraying was carried out. POTATO FLEA BEETLE (Epitrix cucumeris) damaged potatoes in east central district in late May; extensive damage reported from northwest district, ranging up to 20 percent. COLORADO POTATO BEETLE (Leptinotarsa decemlineata) was common on unsprayed fields generally and damaged potatoes in east central district in May, and severely defoliated some small plantings of tomatoes during June in the Twin Cities area. POTATO LEAFHOPPER occurred in light traps in southwest and east central districts on May 21. Damage became apparent in northwest district early in August. SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) was not as abundant in 1955 as in 1954. Counts in June were averaging 1 per sweep in carrots and lettuce in the Twin Cities area with some damage reported. STRAWBERRY WEEVIL (Anthonomus signatus) present in old renovated plantings with populations about the same as in 1954. STRAWBERRY LEAF ROLLER (Ancylus

comptana fragariae) generally was present in neglected fields. SPIDER MITE populations increased over 1954 due to hot, dry weather. A STRAWBERRY SAWFLY (probably Empria ignota) was generally present in old renovated plantings. CYLAMEN MITE (Steneotarsonemus pallidus) generally infested Red Rich and Wayzata varieties of strawberries. THRIPS were serious in neglected plantings.

Forest Insects:

FOREST TENT CATERPILLAR (Malacosoma disstria) infestation was generally light and scattered in 1955. The heaviest defoliation occurred along the eastern edge of Pine County with some widely scattered infestations reported in central and southern areas. Warmer than normal temperatures during the latter part of April and early May advanced hatching dates generally from one to two weeks earlier than normal. The current outbreak appears to have diminished to a sub-economic level generally, with a few scattered areas being the exception. LARCH SAWFLY (Pristiphora erichsonii) defoliated tamarack in many areas for the seventh consecutive year. Results of an aerial survey, covering much of the total tamarack in the State, indicated that the total area of defoliation has increased over that of 1954, with about 78 percent of tamarack exhibiting some defoliation. Tamarack mortality resulting from defoliation was definitely confirmed. In general, this mortality occurred only in stands on poor mineral soil with rocky outcroppings. JACK PINE BUDWORM (Choristoneura pinus) caused defoliation in six areas covering about 70,000 acres in Beltrami, Hubbard, and Crow Wing Counties. Results of an aerial survey indicate heavy budworm defoliation in an area northwest of Bemidji; in an area just southeast of Park Rapids; and in an area near Pelican Lake and Brainerd. The amount of budworm activity during the past two years strongly indicates the beginning of a build-up. SPRUCE BUDWORM (Choristoneura fumiferana) defoliation surveys showed that much of the spruce-fir type was infested. A general aerial reconnaissance showed heavy defoliation from International Falls east to Basswood Lake along the Canadian border. Defoliation is generally light in the remainder of the spruce-fir type. Aerial survey for VARIABLE OAK LEAF CATERPILLAR (Heterocampa manteo) showed defoliation of basswood, birch, elm and oak, covering Cass, Hubbard, Wadena and large areas in Morrison, Todd, Otter Tail, Becker, Mahnomen, Clearwater, Beltrami, Itasca, and Crow Wing Counties. Defoliation ranged from moderate to complete in many areas. However, VARIABLE OAK LEAF CATERPILLAR is not considered a serious threat to forested areas at this time since outbreaks of this pest normally die out before causing serious tree damage.

INTRODUCED PINE SAWFLY (Diprion similis) infestations on valuable white pine stands occurred in many widely-separated locations in the east central and central districts. Early-instar larvae were feeding on old needles, and ovipositing adults were noted about June 1. Increased control may be necessary this next season. WALKINGSTICK (Diapheromera femorata) was scattered throughout the State, and populations were lower than in 1953. WALNUT CATERPILLAR (Datana integerrima) caused heavy defoliation of walnut in southeastern area. Heavy flights

of Phyllophaga fusca, P. rugosa, P. tristis were noted during last of April and feeding took place on a wide variety of broad leaf plants throughout the State. UNICORN CATERPILLARS defoliated oak in Norman County; FALL WEBWORM (Hyphantria cunea) was generally light; present on many deciduous trees in southern area. EASTERN TENT CATERPILLAR (Malacosoma americanum) was present as small scattered infestations. CANKERWORMS (Alsophila pometaria and Paleacrita vernata) occurred as scattered light to moderate infestations. BROWN-HEADED ASH SAWFLY (Tomestethus multicinctus) caused considerable defoliation of broad leaf trees in the Twin Cities and Sauk Centre areas. A JACK PINE APHID (Cinara pini) high populations feeding on terminals of young trees in Pine County. A JACK PINE EUCOSMA (Eucosma sonomana) caused heavy terminal and lateral breakage in some stands in mid-State. Several colonies of A JACK PINE SAWFLY (Neodiprion sp.) noted near Park Rapids and Cass Lake; heavy defoliation on Cut Foot Sioux Forest District in north central area. PINE SPITTLEBUG (Aphrophora parallela) was scattered throughout jack pine areas with high populations near Wilton. PINE TORTOISE SCALE (Toumeyella numismaticum) was scattered throughout the jack pine areas with populations on the increase. RED-HEADED PINE SAWFLY (Neodiprion lecontei) heavy feeding noted in Sherburne and Anoka Counties. SARATOGA SPITTLEBUG (Aphrophora saratogensis) damage was generally light in St. Croix Park and in the Pike Bay Experimental Forest. A PINE LEAF APHID (Pineus pinifoliae) caused considerable injury and some mortality in localized areas, and occurred generally throughout white pine-spruce areas. Heavy infestation of SAN JOSE SCALE (Aspidiotus perniciosus) found in the village of Sanborn attacking fruit trees and some ornamentals. Heavy infestations were present in one village of Nicollet County. Eradication measures are underway. PINE NEEDLE SCALE (Phenacaspis pinifoliae) was abundant in southern Minnesota and in the Twin Cities area. A SPRUCE NEEDLE MINER was scattered throughout the State, causing light damage in the Twin Cities area. EUROPEAN FRUIT LECANIUM (Lecanium corni) infestations were heavy in Duluth, Virginia, Hibbing, Alexandria, and the Twin Cities area. SPIDER MITES were common on all types of nursery stock throughout State.

Insects Affecting Man and Animals

MOSQUITOES: Aedes spencerii began emerging about April 20; A. implicatus about April 24; and A. excrucians about May 2 in Twin Cities area. A heavy brood of Aedes vexans emerged about July 14 in same area. CHIGGERS reported abundant throughout the State in early July.

Miscellaneous Insects

CLOVER MITE (Bryobia praetiosa) was a problem in dwellings in May. STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) entered dwellings in late July throughout State. BROWN-BANDED ROACH (Supella supellectilium) reported from Twin Cities area, indicating probable establishment in Minnesota. A MIDGE (probably Tendipes plumosus) abundant near Twin Cities lakes in early May. Large numbers of Sarcophaga aldrichi (parasite of the forest tent caterpillar) present in east central counties during late May.

SUMMARY OF INSECT CONDITIONS - 1955

MASSACHUSETTS

Reported by A. I. Bourne through assistance of Messrs. Becker, Shaw, Weidhaas, Wheeler, Whitcomb.

Cereal and Forage Insects

ARMYWORM - In closing days of June reports were received of heavy damage in fields of grass and grain from counties in Cape area and southeastern Massachusetts and northward to Essex County in eastern Massachusetts. Also found in Franklin County in the upper Connecticut River Valley. Pupae were found in abundance July 6 and adults by July 8-10. One 15-acre field of timothy was eaten down to the stubs of grass stems. Growers were generally alerted and severe damage by late-summer larvae was largely averted. So much damage and such heavy attack from early-season larvae as occurred in 1955 very unusual. CORN EARWORM (Heliothis zea) attack developed early injury in early sweet corn. Late attack was heavy and general. This pest seems to be increasing steadily each season and appearing earlier. EUROPEAN CORN BORER (Pyrausta nubilalis) showed no evidence of mortality of overwintering larvae. Cool, wet weather through April retarded seasonal development and wet, cold soil delayed planting of corn. Examination of fields of early sweet corn revealed very few egg masses. In general, the first brood damage was comparatively light but second brood was heavy and general.

Vegetable Pests

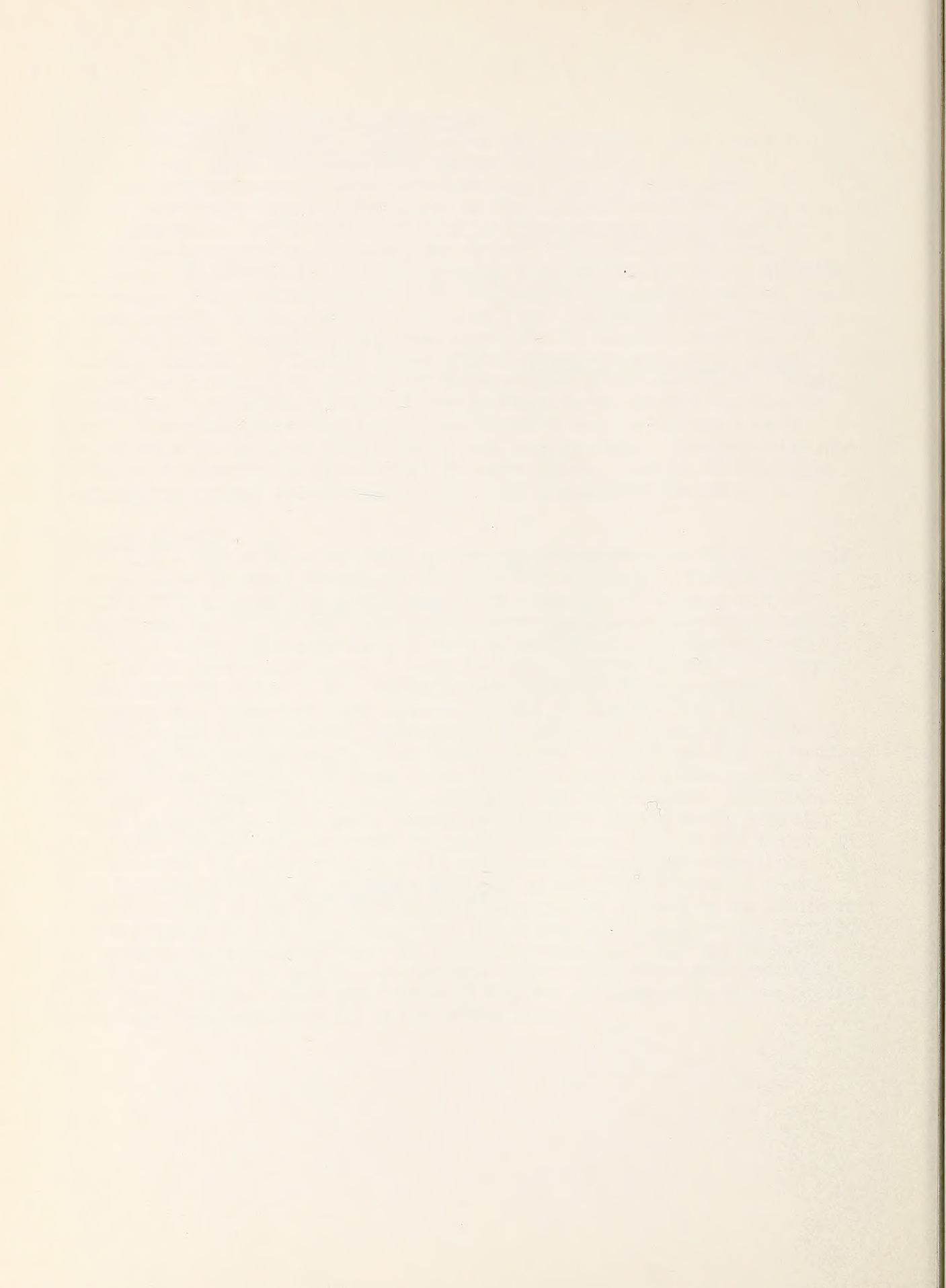
APHIDS attack was general and heavy locally in early and midsummer. ASPARAGUS BEETLES were comparatively light, generally. CUTWORM attack was normal. CABBAGE MAGGOT (Hylemya brassicae) eggs in Amherst area recorded May 3. A heavy attack developed generally. CABBAGEWORMS were about normal in early season but larvae were very abundant generally toward late summer. Growers complained of difficulty in securing control of both species. LEAF MINER eggs found on overwintered spinach in northeastern area in early May. A heavy attack developed generally over State. Pest was unusually abundant. SEED-CORN MAGGOT (Hylemya cilicrura) attack was quite general and heavy. Cold spring weather and early rains seemed to favor attack. STALK BORERS appeared to be more abundant than normal on garden plants and many complaints were made of attack in tobacco fields, on plants in the marginal rows. GREEN CLOVERWORM (Plathypena scabra) was very abundant in some fields and caused severe damage in local areas. FLEA BEETLES attack was normal and general. MEXICAN BEAN BEETLE (Epilachna varivestis) was light generally, moderate to heavy locally. STRIPED CUCUMBER BEETLE (Acalymma vittata) attack was light to moderate locally and lighter and later than in many years. ONION MAGGOT (Hylemya antiqua) attack was normal. ONION THRIPS (Thrips tabaci) was generally lighter than normal. JAPANESE BEETLES (Popillia japonica) was very abundant generally.

Pests of Shade Trees and Ornamentals.

GYPSY MOTH (*Porthetria dispar*) occurred throughout the Connecticut Valley area. Shad bush was opening into bloom April 28 - May 1. This date has long been correlated with hatching of gypsy moth eggs. SPRUCE MITES were very heavy and general in the Connecticut Valley, developing about mid-May. PINE NEEDLE SCALE (*Phenacaspis pinifoliae*) first generation appeared in Amherst and vicinity May 15-17. Normally abundant. BIRCH LEAF MINER (*Fenusa pusilla*) was normally abundant generally. First brood caused very noticeable damage and second brood proved equally large. A heavy attack of PINE LOOPERS developed in Cape Cod area. Hatching reported June 16-17. Reports received of clouds of adults. A TAXUS MEALYBUG (*Pseudococcus cuspidatae*) was discovered in a park in the city of Northampton about mid-June. When brought to attention the attack was at least in its second successive year. Terminal growth of many specimens of yew in the park were encrusted with the mealybugs one or two layers deep. One thorough application of insecticide eliminated the infestation. FALL WEBWORM (*Hyphantria cunea*) was comparatively light throughout the State.

General Insects

MANTIDS - Again quite abundant generally throughout the State. Seems to be present in great abundance for last 2 or 3 years. TARNISHED PLANT BUG (*Lygus lineolaris*) was very abundant all season and over State, found on vegetable, field and forage crops and many ornamentals. EARWIGS were again abundant in area of infestation and have spread along north shore into Essex County and are working inland for several miles from the shore line. EUROPEAN HORNET (*Vespa crabro germana*) was collected from several points in Connecticut Valley. Reports from Willimansett, Springfield in Hampden County and Hatfield in Hampshire County indicate the insect is well established and spreading up the valley. This is believed to be the first record of the species in the State. TERMITES were unusually abundant all season. SPRINGTAILS (*Achorutes* spp.) were unusually abundant during early March. One report stated they covered the snow over some five or six acres. In another area they were clustered in numbers on rock out-croppings. OLD HOUSE BORER (*Hylotrupes bajulus*) infestation of several years standing in one of the old historic buildings on the ground of the Eastern States Exposition was so widespread that many of the supporting timbers and structural woodwork were so seriously weakened that the building was found unsafe for public use and was later taken down and removed from the grounds. Each year several reports of damage by these beetles have been received from all parts of the State.



USDA, AGRICULTURAL RESEARCH SERVICE
ENTOMOLOGY RESEARCH BR
FRUIT INSECTS SECTION
3-7-55 PLANT INDUSTRY STATION
IPB BELTSVILLE, MD

